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# Transport Patterns and Preferences

## New South Wales

## NOTES

### INTRODUCTION

This publication contains results from the 1996 NSW State Supplementary Survey, Transport Patterns and Preferences, conducted throughout New South Wales in October 1996. The major aim of the survey was to provide summary details of transport arrangements people used in their journeys to work, place of education and other destinations. Information included form of transport used and the reasons why people chose that particular form of transport. Information was also collected on whether people had any concerns with particular forms of transport and what those concerns were.

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### SYMBOLS AND OTHER USAGES

n.p.      not available for publication but included in totals where applicable  
\*          subject to sampling variability too high for most practical purposes  
..        not applicable  
—        nil or rounded to zero

\*\*\*\*\*

### INQUIRIES

For information about other ABS statistics and services, please refer to the back of this publication.

For further information about these statistics and the availability of related unpublished statistics, contact Anne Bartlett on (02) 9268 4660.

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## SUMMARY OF FINDINGS

### MAIN FORM OF TRANSPORT USED ON LAST TRIP

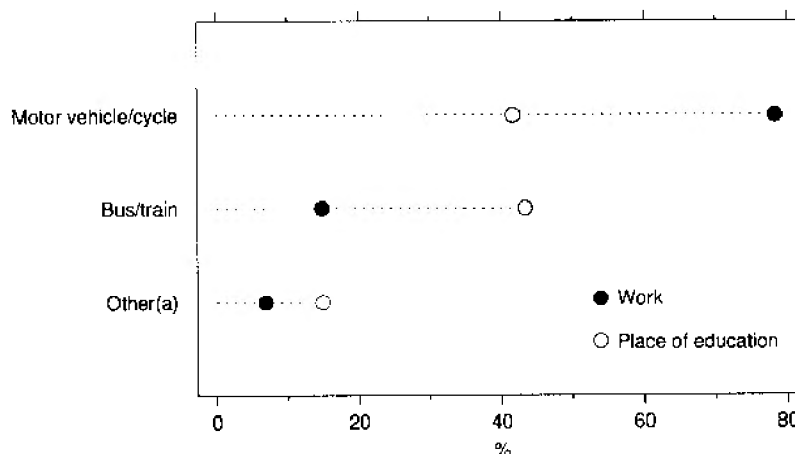
#### Work

In October 1996, almost eight out of ten (78%) employed persons aged 18 years and over in NSW, on their last trip to work, used a motor vehicle or motor cycle as their main form of transport. One in seven (15%) employed persons used a bus or train and about one in twenty (6%) walked or cycled (table 1).

#### Education

The main form of transport, used by 42% of full-time students aged 18 years and over on their last trip to their place of education, was a motor vehicle or motor cycle. About one in four (26%) travelled by train. Almost as many students walked or rode a bicycle (15%) as travelled by bus (17%).

#### Main form of transport used



(a) Includes non-motorised transport.

#### Other trips

More than three-quarters (79%) of persons, who travelled for reasons other than work or study on their last trip in the two weeks prior to the survey, travelled by car or motor cycle. Less than one in ten (8%) travelled by bus (table 1).

The main purposes of these other trips were for shopping or personal business (46%) and trips for social, sporting or recreational reasons (42%) (table 8).

### TRAVEL TO WORK

#### Main form of transport

In the Sydney, Newcastle and Wollongong regions, 76% of employed persons used a motor vehicle/cycle as their main form of transport to work, compared with 85% for persons living outside these regions. In the Sydney, Newcastle and Wollongong region nearly one in five people (19%) travelled to work by bus or train. There was a higher proportion of people in the rest of NSW (12%) who walked or cycled to work compared with people in Sydney, Newcastle and Wollongong (4%) (table 2).

## SUMMARY OF FINDINGS *continued*

### Reasons for using a motor vehicle/cycle

Of all the people in the Sydney, Newcastle and Wollongong region who used a motor vehicle/cycle to travel to work, 88% actually preferred to use a motor vehicle or motor cycle, while the remaining 12% used it because there was no public transport available. Of the 1,349,500 persons who preferred to use a motor vehicle/cycle, 35% gave the reason that using a motor vehicle/cycle was quicker, while 26% preferred to use a motor vehicle/cycle because they could make the trip whenever they liked.

For people living in the rest of the state who used a motor vehicle/cycle to travel to work, 54% preferred to use a motor vehicle/cycle to travel to their place of work, while the remaining 46% did so because there was no public transport available. Of those who preferred to use a motor vehicle/cycle, 37% said it was because they could make the trip whenever they liked and 27% preferred to use a motor vehicle/cycle because they needed their vehicle for work purposes (table 3).

### Problems experienced with public transport

Of all persons who used a motor vehicle or cycle to travel to work in Sydney, Newcastle and Wollongong, 24% (360,600 persons) did so due to problems with public transport. For people who gave this as a reason for using a motor vehicle/cycle, 58% said the problem was that they had to make a connection or that there was no direct service, while 42% felt that public transport took too long (table 4).

### Use of public transport

In Sydney, Newcastle and Wollongong, 400,300 people used public transport to travel to work. Almost half of these (44%) did so stating that there was no motor vehicle/cycle available, while 29% said their reason was cost of parking or no parking worries and 26% said it was quicker than other forms of transport (table 5).

Of all persons in Sydney, Newcastle and Wollongong, who used public transport to travel to work, 74% had no problems with public transport itself. Of the 26% of public transport users who had a problem, the main problems were safety, the unreliability of the service and that the service was too infrequent (table 6).

## OTHER TRIPS MADE

### Reasons for using a motor vehicle/cycle

The label 'other trips' is used essentially for the last trip made by the respondent, excluding travel to work or place of education, in the two weeks prior to the survey. As such, the types of destination varied considerably and the respondents' preferences and problems were linked to the purpose of the trip. In Sydney, Newcastle and Wollongong, for those persons who used a motor vehicle/cycle for their last trip, less than 10% did so because there was no public transport available.

Of the 2,600,100 persons in NSW who preferred to use a motor vehicle/cycle, over 43% did so because they could make the trip whenever they liked, while 20% preferred to use a motor vehicle/cycle due to problems with public transport (table 8).

## SUMMARY OF FINDINGS *continued*

### USAGE OF BUS, TRAIN OR FERRY IN THE LAST TWO WEEKS

One-third (32%) of the 4,462,600 people aged 18 years and over who lived in NSW travelled on a bus, train or ferry in the 2 weeks prior to the survey. Percentages were higher in the combined Sydney, Newcastle and Wollongong region (40%) compared with the rest of NSW (10%).

In Sydney, Newcastle and Wollongong, the percentages varied across the age groups from 57% for people aged 18–24 years, to 29% for people aged 45–54 years. For the 55–64 years and 65 years and over age groups the use of bus, train or ferry increased (40% and 50% respectively) (table 10).

### TRANSPORT PROBLEMS

In NSW about one in twenty (5%) people were unable to attend one or more events or activities in the two weeks prior to the survey due to transport problems. Females were more disadvantaged than males in this regard. For females, 135,000 (5.9%) were unable to attend one or more events or activities due to transport problems compared with 78,600 males (3.6%) (table 11).

The two main problems experienced by people unable to attend one or more events or activities were the unavailability of public transport and the unavailability of a motor vehicle/cycle, affecting 42% and 35% respectively of those persons with a problem (table 12).

## MAIN FORM OF TRANSPORT USED ON LAST TRIP

	Males	Females	Persons	Males	Females	Persons
Main form of transport used on last trip	'000	'000	'000	%	%	%
WORK						
Motor vehicle/cycle-passenger	87.6	94.2	181.8	5.8	8.6	7.0
Motor vehicle/cycle-driver	1 120.7	738.6	1 859.3	74.2	67.4	71.4
Bus	51.9	70.4	122.3	3.4	6.4	4.7
Train	142.5	121.1	263.6	9.4	11.0	10.1
Non-motorised transport	86.8	60.2	147.0	5.7	5.5	5.6
Other	20.3	*11.3	31.6	1.3	*1.0	1.2
Total employed persons who travelled to work	1 509.7	1 095.8	2 605.6	100.0	100.0	100.0
PLACE OF EDUCATION(a)						
Motor vehicle/cycle-passenger	*5.4	*12.6	18.0	*6.2	*12.4	9.5
Motor vehicle/cycle-driver	29.0	32.1	61.1	33.2	31.4	32.2
Bus	18.6	14.1	32.7	21.3	13.8	17.3
Train	28.9	20.6	49.4	33.1	20.1	26.1
Non-motorised transport	*5.4	22.8	28.2	*6.2	22.3	14.9
Total persons who travelled to place of education	87.2	102.2	189.5	100.0	100.0	100.0
OTHER TRIPS(b)(c)						
Motor vehicle/cycle-passenger	188.5	527.4	716.0	9.5	24.4	17.2
Motor vehicle/cycle-driver	1 457.1	1 102.2	2 559.3	73.3	50.9	61.6
Bus	106.0	245.5	351.5	5.3	11.3	8.5
Train	116.4	123.4	239.8	5.9	5.7	5.8
Non-motorised transport	93.5	125.7	219.2	4.7	5.8	5.3
Other	27.0	39.5	66.5	1.4	1.8	1.6
Total persons who made other trips in the last two weeks	1 988.6	2 163.7	4 152.4	100.0	100.0	100.0
ALL PERSONS						
All persons	2 189.5	2 273.1	4 462.6	..	..	..

(a) Includes only those persons undertaking full-time study.

(b) Includes shopping, visiting a doctor, social outings, etc.

(c) Excludes trips to work or place of education.

	Males	Females	Persons	Males	Females	Persons
Main form of transport used	'000	'000	'000	%	%	%
SYDNEY, NEWCASTLE AND WOLLONGONG						
Motor vehicle/cycle-passenger	47.6	71.4	118.9	4.1	8.4	5.9
Motor vehicle/cycle-driver	864.1	546.3	1 410.3	74.2	64.7	70.2
Bus	49.0	65.6	114.7	4.2	7.8	5.7
Train	142.1	120.6	262.7	12.2	14.3	13.1
Non-motorised transport	43.5	30.8	74.3	3.7	3.6	3.7
Other	18.0	*10.3	28.3	1.5	*1.2	1.4
<b>Total</b>	<b>1 164.3</b>	<b>844.9</b>	<b>2 009.2</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
REST OF NSW						
Motor vehicle/cycle-passenger	40.0	22.9	62.9	11.6	9.1	10.5
Motor vehicle/cycle-driver	256.6	192.3	449.0	74.3	76.7	75.3
Bus	n.p.	n.p.	*7.7	n.p.	n.p.	*1.3
Non-motorised transport	43.3	29.4	72.7	12.5	11.7	12.2
<b>Total(a)</b>	<b>345.5</b>	<b>250.9</b>	<b>596.4</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
TOTAL NSW						
Motor vehicle/cycle-passenger	87.6	94.2	181.8	5.8	8.6	7.0
Motor vehicle/cycle-driver	1 120.7	738.6	1 859.3	74.2	67.4	71.4
Bus	51.9	70.4	122.3	3.4	6.4	4.7
Train	142.5	121.1	263.6	9.4	11.0	10.1
Non-motorised transport	86.8	60.2	147.0	5.7	5.5	5.6
Other	20.4	*11.3	31.6	1.3	*1.0	1.2
<b>Total</b>	<b>1 509.7</b>	<b>1 095.8</b>	<b>2 605.6</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Includes persons who travelled by train and 'other' forms of transport.



## REASONS MOTOR VEHICLE/CYCLE USED TO TRAVEL TO WORK

	Males	Females	Persons	Proportion
Reasons motor vehicle/cycle used to travel to work(a)	'000	'000	'000	%
SYDNEY, NEWCASTLE AND WOLLONGONG				
Preferred motor vehicle/cycle				
Tasks to do on the way	87.6	91.9	179.5	11.7
Can make trip whenever I like	209.5	146.9	356.4	23.3
Personal safety/travel after dark	*10.9	37.3	48.2	3.2
Too much to carry on public transport	38.4	22.4	60.8	4.0
Need motor vehicle/cycle for work	219.3	47.0	266.3	17.4
Motor vehicle/cycle provided by company/business	102.4	25.2	127.6	8.3
Motor vehicle/cycle is quicker	264.0	209.5	473.5	31.0
Motor vehicle/cycle is cheaper	46.9	13.7	60.6	4.0
Problems with public transport	204.3	156.4	360.6	23.6
Other	71.0	48.5	119.6	7.8
Total persons who preferred to use a motor vehicle/cycle	816.0	533.6	1 349.5	88.2
No public transport available	95.7	84.1	179.7	11.8
Total persons who travelled to work by motor vehicle/cycle	911.6	617.6	1 529.3	100.0
REST OF NSW				
Preferred motor vehicle/cycle				
Tasks to do on the way	*12.5	24.5	36.9	7.2
Can make trip whenever I like	49.6	53.6	103.2	20.2
Personal safety/travel after dark	n.p.	n.p.	*12.9	*2.5
Too much to carry on public transport	*5.5	*4.9	*10.4	*2.0
Need motor vehicle/cycle for work	46.3	29.3	75.7	14.8
Motor vehicle/cycle provided by company/business	30.9	*5.2	36.1	7.1
Motor vehicle/cycle is quicker	39.0	27.2	66.2	12.9
Motor vehicle/cycle is cheaper	*9.0	*6.8	15.8	3.1
Problems with public transport	27.1	15.6	42.7	8.4
Other	15.0	13.5	28.5	5.6
Total persons who preferred to use a motor vehicle/cycle	162.3	114.5	276.8	54.1
No public transport available	134.3	100.7	235.0	45.9
Total persons who travelled to work by motor vehicle/cycle	296.6	215.2	511.9	100.0
TOTAL NSW				
Preferred motor vehicle/cycle				
Tasks to do on the way	100.0	116.3	216.4	10.6
Can make trip whenever I like	259.1	200.4	459.6	22.5
Personal safety/travel after dark	*11.9	49.2	61.1	3.0
Too much to carry on public transport	44.0	27.3	71.2	3.5
Need motor vehicle/cycle for work	265.6	76.3	342.0	16.8
Motor vehicle/cycle provided by company/business	133.3	30.4	163.7	8.0
Motor vehicle/cycle is quicker	303.0	236.7	539.7	26.4
Motor vehicle/cycle is cheaper	55.9	20.5	76.4	3.7
Problems with public transport	231.4	172.0	403.4	19.8
Other	86.0	62.1	148.1	7.3
Total persons who preferred to use a motor vehicle/cycle	978.3	648.1	1 626.4	79.7
No public transport available	230.0	184.8	414.8	20.3
Total persons who travelled to work by motor vehicle/cycle	1 208.3	832.9	2 041.1	100.0

(a) Components do not add to totals as a person could have more than one reason.

	Males	Females	Persons	Proportion
<i>Problems with public transport for travel to work(a)</i>	'000	'000	'000	%
SYDNEY, NEWCASTLE AND WOLLONGONG				
Service too infrequent	57.5	36.4	94.0	26.1
Service unreliable	33.7	16.5	50.2	13.9
Service overloaded (cannot get a seat)	n.p.	n.p.	*11.9	*3.3
Public transport takes too long	91.7	58.1	149.7	41.5
Have to make a connection/no direct service	118.6	91.8	210.4	58.3
Safety of public transport and surrounds is a problem (including after dark)	*5.6	18.7	24.3	6.7
Difficulties due to disability	n.p.	n.p.	*3.5	*1.0
Other	*11.1	*6.5	17.5	4.9
<b>Total persons who travelled to work by motor vehicle/cycle due to problems with public transport</b>	<b>204.3</b>	<b>156.4</b>	<b>360.6</b>	<b>100.0</b>
TOTAL NSW				
Service too infrequent	70.5	48.6	119.1	29.5
Service unreliable	34.7	18.3	53.1	13.2
Service overloaded (cannot get a seat)	n.p.	n.p.	*11.9	*2.9
Public transport takes too long	94.4	59.7	154.2	38.2
Have to make a connection/no direct service	128.7	96.0	224.7	55.7
Safety of public transport and surrounds is a problem (including after dark)	*5.6	18.7	24.3	6.0
Difficulties due to disability	n.p.	n.p.	*3.5	*0.9
Other	16.8	*7.3	24.1	6.0
<b>Total persons who travelled to work by motor vehicle/cycle due to problems with public transport</b>	<b>231.4</b>	<b>172.0</b>	<b>403.4</b>	<b>100.0</b>

(a) Components do not add to totals as a person could have more than one problem.

## REASONS FOR USING PUBLIC TRANSPORT TO TRAVEL TO WORK

	Males	Females	Persons	Proportion
Reasons for using public transport to travel to work(a)	'000	'000	'000	%
SYDNEY, NEWCASTLE AND WOLLONGONG				
No motor vehicle/cycle available	72.7	102.3	175.0	43.7
Enjoy time to read/relax	32.6	16.8	49.4	12.3
Less stressful than other forms	39.6	18.2	57.8	14.4
Quicker than other forms	60.5	44.0	104.5	26.1
Cheaper than other forms	59.5	29.5	89.0	22.2
No parking worries/cost of parking	59.5	55.6	115.1	28.8
Live/work close to public transport	23.9	29.4	53.3	13.3
Other	22.9	18.5	41.4	10.3
<b>Total persons who travelled to work by public transport</b>	<b>204.5</b>	<b>195.8</b>	<b>400.3</b>	<b>100.0</b>
TOTAL NSW				
No motor vehicle/cycle available	74.9	108.1	183.0	44.6
Enjoy time to read/relax	33.6	16.8	50.5	12.3
Less stressful than other forms	40.7	18.6	59.2	14.4
Quicker than other forms	60.9	44.0	104.9	25.6
Cheaper than other forms	60.6	29.5	90.1	22.0
No parking worries/cost of parking	59.5	56.0	115.5	28.2
Live/work close to public transport	25.0	29.4	54.4	13.3
Other	24.0	18.5	42.4	10.3
<b>Total persons who travelled to work by public transport</b>	<b>208.2</b>	<b>202.0</b>	<b>410.2</b>	<b>100.0</b>

(a) Components do not add to totals as a person could have more than one reason.

	Males	Females	Persons	Proportion
<i>Problems with public transport for travel to work(a)</i>	'000	'000	'000	%
.....				
SYDNEY, NEWCASTLE AND WOLLONGONG				
Had problem(s) with public transport				
Service too infrequent	14.5	13.2	27.7	6.9
Service unreliable	14.6	16.6	31.3	7.8
Service overloaded (cannot get a seat)	*8.4	*11.2	19.6	4.9
Public transport takes too long	*10.6	*4.4	15.0	3.8
Have to make a connection/no direct service	*7.9	*2.1	*10.1	*2.5
Safety of public transport and surrounds is a problem (including after dark)	*9.0	24.8	33.9	8.5
Difficulties due to disability	n.p.	—	n.p.	n.p.
Other	*11.1	*9.5	20.6	5.1
<i>Total persons who had a problem with public transport</i>	55.1	50.4	105.5	26.4
No problems with public transport	149.4	145.4	294.8	73.6
<b>Total persons who travelled to work by public transport</b>	<b>204.5</b>	<b>195.8</b>	<b>400.3</b>	<b>100.0</b>
.....				
TOTAL NSW				
Had problem(s) with public transport				
Service too infrequent	14.5	13.2	27.7	6.8
Service unreliable	14.6	19.4	34.0	8.3
Service overloaded (cannot get a seat)	*8.4	*11.2	19.6	4.8
Public transport takes too long	*10.6	*4.4	15.0	3.7
Have to make a connection/no direct service	*7.9	*2.1	*10.1	*2.5
Safety of public transport and surrounds is a problem (including after dark)	*9.0	24.8	33.9	8.3
Difficulties due to disability	n.p.	—	n.p.	n.p.
Other	*11.1	*10.5	21.6	5.3
<i>Total persons who had a problem with public transport</i>	55.1	54.2	109.3	26.6
No problems with public transport	153.1	147.9	300.9	73.4
<b>Total persons who travelled to work by public transport</b>	<b>208.2</b>	<b>202.0</b>	<b>410.2</b>	<b>100.0</b>

(a) Components do not add to totals as a person could have more than one problem.

## MAIN FORM OF TRANSPORT USED FOR OTHER TRIPS(a)(b)

	Males	Females	Persons	Males	Females	Persons
Main form of transport used for other trips	'000	'000	'000	%	%	%
SYDNEY, NEWCASTLE AND WOLLONGONG						
Motor vehicle/cycle-passenger	127.6	363.4	491.0	8.4	22.5	15.7
Motor vehicle/cycle-driver	1 084.2	788.4	1 872.6	71.5	48.9	59.8
Bus	98.7	216.5	315.3	6.5	13.4	10.1
Train	114.3	117.1	231.4	7.5	7.3	7.4
Non-motorised transport	68.6	99.7	168.3	4.5	6.2	5.4
Other	22.4	28.2	50.6	1.5	1.8	1.6
<b>Total</b>	<b>1 515.8</b>	<b>1 613.3</b>	<b>3 129.1</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
REST OF NSW						
Motor vehicle/cycle-passenger	61.0	164.0	225.0	12.9	29.8	22.0
Motor vehicle/cycle-driver	372.9	313.8	686.8	78.9	57.0	67.1
Bus	*7.3	29.0	36.3	*1.5	5.3	3.5
Train	*2.1	*6.3	*8.5	*0.4	*1.2	*0.8
Non-motorised transport	24.8	26.0	50.9	5.3	4.7	5.0
Other	*4.7	*11.3	16.0	*1.0	*2.1	1.6
<b>Total</b>	<b>472.8</b>	<b>550.5</b>	<b>1 023.3</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
TOTAL NSW						
Motor vehicle/cycle-passenger	188.5	527.4	716.0	9.5	24.4	17.2
Motor vehicle/cycle-driver	1 457.1	1 102.2	2 559.3	73.3	50.9	61.6
Bus	106.0	245.5	351.5	5.3	11.3	8.5
Train	116.4	123.4	239.8	5.9	5.7	5.8
Non-motorised transport	93.5	125.7	219.2	4.7	5.8	5.3
Other	27.0	39.5	66.5	1.4	1.8	1.6
<b>Total</b>	<b>1 988.6</b>	<b>2 163.7</b>	<b>4 152.4</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Includes shopping, visiting a doctor, social outings, etc.

(b) Excludes trips to work or place of education.

## REASONS MOTOR VEHICLE/CYCLE USED FOR OTHER TRIPS(a)

## MAIN PURPOSE OF TRIP.....

	<i>Shopping/ personal business</i>	<i>Visit G.P./ medical specialist</i>	<i>Social/ sport/ recreational reasons</i>	<i>Total(c)</i>
<i>Reasons motor vehicle/cycle used for other trips(b)</i>	'000	'000	'000	'000

## SYDNEY, NEWCASTLE AND WOLLONGONG

Preferred motor vehicle/cycle				
Tasks to do on the way	73.8	*3.8	39.7	133.6
Can make trip whenever I like	370.1	48.5	416.9	866.4
Personal safety/travel after dark	35.7	*4.4	37.8	88.2
Too much to carry on public transport	425.1	*4.4	67.0	506.9
Motor vehicle/cycle is quicker	348.0	50.8	354.1	801.3
Motor vehicle/cycle is cheaper	53.8	*3.0	67.5	131.1
Problems with public transport	173.9	37.4	195.4	439.1
Other	77.8	25.6	122.5	249.7
<i>Total persons who preferred to use motor vehicle/cycle</i>	<i>985.9</i>	<i>125.5</i>	<i>911.0</i>	<i>2 143.1</i>
No public transport available	75.5	*11.6	109.8	220.5
<b>Total persons who used motor vehicle/cycle for other trips</b>	<b>1 061.4</b>	<b>137.1</b>	<b>1 020.8</b>	<b>2 363.5</b>

## TOTAL NSW

Preferred motor vehicle/cycle				
Tasks to do on the way	95.7	*6.3	50.0	177.6
Can make trip whenever I like	497.7	67.5	524.0	1 133.5
Personal safety/travel after dark	37.7	*5.3	40.3	94.6
Too much to carry on public transport	481.3	*5.0	80.7	578.6
Motor vehicle/cycle is quicker	422.3	61.9	414.3	956.0
Motor vehicle/cycle is cheaper	67.7	*9.0	88.1	172.6
Problems with public transport	208.5	45.5	219.3	513.6
Other	86.8	32.5	143.1	293.3
<i>Total persons who preferred to use motor vehicle/cycle</i>	<i>1 189.7</i>	<i>162.2</i>	<i>1 092.5</i>	<i>2 600.1</i>
No public transport available	309.6	45.5	269.5	675.2
<b>Total persons who used motor vehicle/cycle for other trips</b>	<b>1 499.3</b>	<b>207.7</b>	<b>1 361.9</b>	<b>3 275.3</b>

(a) Excludes trips to work or place of education.

(b) Components do not add to totals as a person could have more than one reason.

(c) Total includes 'to visit another community service', 'voluntary work', 'pick up/drop off somebody' and 'other purpose'.

## MAIN PURPOSE OF TRIP.....

	Shopping/ personal business	Visit G.P./ medical specialist	Social/ sport/ recreational reasons	Total(c)
<i>Problems with public transport for other trips(b)</i>	'000	'000	'000	'000
.....				
SYDNEY, NEWCASTLE AND WOLLONGONG				
Service too infrequent	72.6	15.7	60.9	157.7
Service unreliable	31.4	*3.5	17.8	57.6
Service overloaded (cannot get a seat)	*4.1	—	*1.4	*8.9
Public transport takes too long	59.8	*10.7	56.9	133.0
Have to make a connection/no direct service	70.5	13.9	114.2	212.8
Safety of public transport and surrounds is a problem (including after dark)	13.4	*4.7	26.6	50.9
Difficulties due to disability	*12.2	*9.3	*11.1	34.4
Other	19.5	*3.6	14.5	38.5
<b>Total persons who took other trips by motor vehicle/cycle due to problems with public transport</b>	<b>173.9</b>	<b>37.4</b>	<b>195.4</b>	<b>439.1</b>
.....				
TOTAL NSW				
Service too infrequent	94.5	20.1	73.7	199.9
Service unreliable	32.2	*4.9	21.5	63.5
Service overloaded (cannot get a seat)	*4.1	—	*1.4	*8.9
Public transport takes too long	64.6	*11.6	63.7	147.8
Have to make a connection/no direct service	77.3	14.4	122.1	231.5
Safety of public transport and surrounds is a problem (including after dark)	13.4	*6.1	26.6	53.3
Difficulties due to disability	14.5	*12.1	*12.1	41.2
Other	27.4	*5.2	19.4	53.5
<b>Total persons who took other trips by motor vehicle/cycle due to problems with public transport</b>	<b>208.5</b>	<b>45.5</b>	<b>219.3</b>	<b>513.8</b>

(a) Excludes trips to work or place of education.

(b) Components do not add to totals as a person could have more than one problem.

(c) Total includes 'to visit another community service', 'voluntary work', 'pick up/drop off somebody' and 'other purpose'.

Age	Sydney, Newcastle and Wollongong	Total NSW	Sydney, Newcastle and Wollongong	Total NSW
Years	'000	'000	%(a)	%(a)
MALES				
18-24	133.5	143.9	55.3	47.0
25-34	116.5	127.2	33.3	27.5
35-44	109.4	117.8	32.8	25.8
45-54	65.8	68.1	21.3	17.4
55-64	66.4	69.6	34.7	26.4
65 and over	100.1	106.3	44.6	34.2
Total males who used bus, train or ferry in the last two weeks	591.7	633.1	35.9	28.9
FEMALES				
18-24	139.0	148.7	58.8	49.0
25-34	138.7	148.6	37.4	31.4
35-44	123.9	137.0	36.3	29.6
45-54	109.7	115.2	38.0	30.1
55-64	83.6	95.5	45.2	36.6
65 and over	142.4	165.0	54.1	42.4
Total females who used bus, train or ferry in the last two weeks	737.3	810.0	43.7	35.6
PERSONS				
18-24	272.5	292.7	57.0	48.0
25-34	255.2	275.8	35.4	29.5
35-44	233.3	254.8	34.6	27.7
45-54	175.4	183.4	29.4	23.7
55-64	150.0	165.2	39.9	31.5
65 and over	242.5	271.3	49.7	38.7
Total persons who used bus, train or ferry in the last two weeks	1 329.0	1 443.1	39.8	32.3
All persons	3 335.4	4 462.6	..	..

(a) As a proportion of the population aged 18 years and over in the same age group/region.



# 11

## PERSONS UNABLE TO ATTEND EVENTS DUE TO TRANSPORT PROBLEMS

Age	Males	Females	Persons	Males	Females	Persons
Years	'000	'000	'000	%(a)	%(a)	%(a)
18-24	*12.8	25.1	37.9	*4.2	8.3	6.2
25-34	24.5	28.8	53.2	5.3	6.1	5.7
35-44	13.5	15.6	29.1	3.0	3.4	3.2
45-54	*9.5	22.4	31.9	*2.4	5.8	4.1
55-64	*4.2	*10.8	14.9	*1.6	*4.1	2.8
65 and over	14.2	32.4	46.6	4.6	8.3	6.7
<b>Total persons unable to attend events due to transport problems</b>	<b>78.6</b>	<b>135.0</b>	<b>213.6</b>	<b>3.8</b>	<b>5.9</b>	<b>4.8</b>
All persons	2 189.5	2 273.1	4 462.6	..	..	..

(a) As a proportion of the population aged 18 years and over in the same age group.

	Males	Females	Persons	Males	Females	Persons
Problems with transport to events(a)	'000	'000	'000	%	%	%
No public transport available	32.3	58.0	90.3	41.0	43.0	42.3
No motor vehicle/cycle available	30.4	45.1	75.6	38.7	33.4	35.4
Safety on public transport is a problem (including after dark)	*2.2	20.4	22.6	*2.8	15.1	10.6
Safety getting to/from public transport is a problem (including after dark)	*8.8	15.8	24.6	*11.2	11.7	11.5
Safety waiting for public transport is a problem (including after dark)	n.p.	n.p.	13.7	n.p.	n.p.	6.4
Difficulties due to a disability	13.5	16.0	29.5	17.2	11.8	13.8
Other/don't know	*12.3	31.8	44.1	*15.6	23.6	20.6
<b>Total persons unable to attend events due to transport problems</b>	<b>78.6</b>	<b>135.0</b>	<b>213.6</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Components do not add to totals as a person could have more than one problem.

	Sydney, Newcastle and Wollongong	Rest of NSW	Total NSW	Sydney, Newcastle and Wollongong	Rest of NSW	Total NSW
Main reason for selection of area to live	'000	'000	'000	%	%	%
Price	390.9	111.2	502.1	15.8	13.5	15.2
Access to workplace for income earner	284.5	103.5	388.0	11.5	12.5	11.8
Availability of public transport	123.3	*3.3	126.7	5.0	*0.4	3.8
Access to educational facilities (eg. school, TAFE, university)	161.7	42.4	204.1	6.6	5.1	6.2
Close to family/friends	280.4	80.9	361.3	11.4	9.8	11.0
Close to services (eg. shop, bank, P.O., medical)	126.9	72.7	199.6	5.1	8.8	6.1
Close to recreational facilities (eg. outdoors, sporting facilities, movies, theatre etc.)	63.5	13.8	77.3	2.6	1.7	2.3
Distance from 'road' traffic noise	32.0	13.5	45.6	1.3	1.6	1.4
Distance from other noise (eg aircraft, train)	17.3	*4.9	22.2	0.7	*0.6	0.7
Like area/quality of lifestyle	839.0	304.0	1 143.1	34.0	36.8	34.7
Other	95.6	60.6	156.1	3.9	7.3	4.7
None/don't know	51.7	15.3	67.0	2.1	1.9	2.0
<b>Total persons who were involved in the selection of area</b>	<b>2 467.0</b>	<b>826.2</b>	<b>3 293.1</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

## EXPLANATORY NOTES

\*\*\*\*\*

### INTRODUCTION

- 1** This publication contains results from the 1996 NSW State Supplementary Survey, Transport Patterns and Preferences. The survey was conducted throughout NSW in October 1996 as a supplement to the ABS Monthly Population Survey (MPS).
- 2** Information was collected from a randomly selected individual aged 18 years or more from each household. The information collected included the form of transport used on the last trip to work, place of full-time education or on an other trip from home besides to their place of work or education. Information was also collected on reasons for choosing the form of transport, problems experienced with public transport and characteristics such as home ownership and residential location choice.
- 3** The survey was conducted using only the private dwellings included in the MPS. The MPS was conducted during the two weeks commencing Monday 7 October 1996.
- 4** Information was sought from approximately 6,300 persons, of whom about 5,300 (85%) responded.

### SCOPE

- 5** The survey was conducted for all persons aged 18 years and over who were usual residents of private dwellings, except:
  - members of the permanent defence forces;
  - certain diplomatic personnel of overseas governments, customarily excluded from census and estimated populations;
  - overseas residents in Australia; and
  - members of non-Australian defence forces (and their dependants) stationed in Australia.
- 6** Residents of other non-private dwellings such as hospitals, motels and jails (included in the MPS) were excluded from this survey.

### COVERAGE

- 7** In the survey, coverage rules were applied which aimed to ensure that each person was associated with only one dwelling, and hence had only one chance of selection in the survey.

### RELATED PUBLICATIONS

- 8** The ABS produces a wide range of publications of social and demographic statistics. Other ABS publications which relate to this survey topic include:

*Housing Characteristics and Decisions, 1991 (8710.0)*

*Housing Intentions, Preferences and Attitudes, Queensland, October 1991 (8710.3)*

*Journey to Work, School and Shop, Adelaide Statistical Division, October 1991 (9201.4)*

*Travel to Work, School and Shops, Victoria, October 1994 (9201.2)*

## TECHNICAL NOTES

### ESTIMATION PROCEDURE

**1** Estimates derived from this survey were obtained using a complex ratio estimation procedure. This procedure ensured that the survey estimates conformed to an independently estimated distribution of population by age, sex, and part of state, rather than to the age, sex and part of state distribution among respondents. The procedure also ensured that household estimates conformed to independently estimated distribution of households by certain household characteristics (number of adults and children in the household) rather than to the distribution among responding households.

### RELIABILITY OF ESTIMATES

#### Non-sampling errors

**2** Estimates in this publication are subject to non-sampling and sampling errors.

**3** Non-sampling errors may arise as a result of errors in the reporting, recording or processing of the data and can occur even if there is a complete enumeration of the population. Non-sampling errors can be introduced through: inadequacies in the questionnaire; non-response; inaccurate reporting by respondents; errors in the application of survey procedures; incorrect recording of answers; and errors in data entry and processing.

**4** It is difficult to measure the size of the non-sampling errors and the extent of these errors could vary considerably in significance from survey to survey and from question to question. However, every effort is made in the design of the survey and development of survey procedures to minimise the effect of these errors.

#### Sampling errors

**5** Sampling error is the error which occurs by chance because the data were only obtained from a sample, not the entire population.

## STANDARD ERRORS

### ESTIMATES OF SAMPLING ERROR

**1** One measure of the variability of estimates which occurs as a result of surveying only a sample of the population is the *standard error* (SE) (see table below).

**2** There are about two chances in three (67%) that a survey estimate is within one standard error of the figure that would have been obtained if all persons had been included in the survey. There are about nineteen chances in twenty (95%) that the difference will be less than two standard errors.

**3** Linear interpolation should be used to calculate the standard error of estimates falling between the sizes of estimates listed in the table.

**4** The standard error can also be expressed as a percentage of the estimate and this is known as the relative standard error (RSE). The RSE is determined by dividing the standard error of an estimate SE(x) by the estimate X and expressing it as a percentage. That is—

$$RSE(x) = \frac{100SE(x)}{x}$$

(where x is the estimate). The relative standard error is a useful measure in that it provides an immediate indication of the percentage errors likely to have occurred due to sampling.

**5** Proportions and percentages formed from the ratio of two estimates are also subject to sampling error. The size of the error depends on the accuracy of both the numerator and the denominator. The formula for the relative standard error of a proportion or percentage is—

$$RSE(x/y) = \sqrt{[RSE(x)]^2 + [RSE(y)]^2}$$

**6** For all tables in this publication, only estimates with relative standard errors of 25% or less, and percentages based on such estimates, are considered sufficiently reliable for most purposes. However, estimates and percentages with relative standard errors greater than 25% have been included, preceded by the symbol \* to indicate that they are subject to high standard errors and should be used with caution.

# STANDARD ERRORS *continued*

Standard errors of estimates of persons, New South Wales, October 1996

Size of estimate	Standard error	Relative standard error
Number of persons	No.	%
1 000	970	97.2
1 500	1 190	79.2
2 000	1 370	68.4
2 500	1 500	60.9
3 000	1 650	55.4
3 500	1 800	51.1
4 000	1 900	47.6
5 000	2 100	42.3
7 000	2 450	35.3
10 000	2 900	29.1
20 000	3 950	19.8
30 000	4 700	15.7
50 000	5 850	11.7
100 000	7 750	7.8
200 000	10 200	5.1
300 000	11 900	4.0
500 000	14 400	2.9
1 000 000	18 450	1.8
2 000 000	23 450	1.2

## GLOSSARY

<b>Employed persons</b>	Aged 18 years and over and usually work 15 hours or more a week in a job, business or farm or without pay in a family business. Persons were included if they had a job, business or farm, but were away from it because of holidays, sickness or for any other reason.
<b>Studying full-time</b>	Study was defined as "full-time" if the institution advertised the course as full-time, or if the respondent's perception was that they were studying full-time.
<b>Main form of transport</b>	If more than one form of transport were used, the main form relates to the form of transport that the respondent spent the most time using.
<b>Non-motorised transport</b>	Includes transport by bicycle and by walking.
<b>Other trip</b>	The last trip made in the last two weeks prior to the interview, apart from any trips to work or to the place of education.
<b>Persons studying</b>	Aged 18 years and over and attending an educational institution on a full-time basis.
<b>Place of education</b>	The secondary school, TAFE, university or other educational institution at which the person studied full-time.
<b>Public transport</b>	Any kind of bus (State Transit, private bus companies, community bus services), train services, ferry services and taxis.
<b>Region</b>	Refer to <i>Statistical Geography, Volume 1: Australian Standard Geographical Classification (ASGC)</i> (1216.0) for more details.  <i>Sydney, Newcastle and Wollongong</i> refers to the Sydney Major Statistical Region as well as Newcastle and Wollongong Statistical Region Sectors.  <i>Rest of NSW</i> refers to the balance of the Hunter and Illawarra Statistical Regions as well as the Statistical Regions of Richmond-Tweed, Mid-North Coast, Northern, North Western, Central West, South Eastern, Murray, Murrumbidgee and Far West.



## DO YOU NEED ADDITIONAL DATA?

In addition to the statistics provided in this publication, the ABS can produce upon request customised tables presenting any of the following information included in the survey. Inquiries should be made to the contact person shown at the front of this publication. Information collected in the survey included:

### DEMOGRAPHIC ITEMS

- Age
- Sex
- Marital status
- Relationship in household
- Birthplace
- Labour force status
- Main language spoken at home

### DWELLING

- Dwelling structure
- Dwelling ownership
- Length of time lived at dwelling
- Reasons for selecting this area to live in

### TRANSPORT TO WORK/PLACE OF EDUCATION

- All forms/main form of transport used to travel to work/place of education
- Reasons main form of transport used
- Problems (if any) with public transport experienced by motor vehicle/cycle users
- Problems (if any) with public transport experienced by public transport users

### TRANSPORT FOR OTHER TRIPS FROM HOME (BESIDES THOSE TO WORK/PLACE OF EDUCATION)

- Main purpose of last trip
- Main form of transport used on last other trip
- Reasons main form of transport used
- Problems (if any) with public transport experienced by motor vehicle/cycle users
- Problems (if any) with public transport experienced by public transport users

### TRANSPORT CONSTRAINTS

- Whether any transport constraints experienced in the last two weeks
- Type of constraint experienced

### TRAVEL ON BUS, TRAIN OR FERRY IN NSW

- Whether travelled on a bus, train or ferry in NSW in the two weeks prior to the interview





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